CLAIMS

What is claimed is:

1.   1.   A notification mechanism, comprising:

2.   a plurality of completion queue handlers associated with a communication device, each

3.   of the plurality of completion queue handlers associated with a process; and

4.   at least one completion queue associated with each one of the plurality of completion

5.   queue handlers.

1.   2.   The notification mechanism set forth in claim 1, wherein the process is

2.   associated with at least one processor.

1.   3.   The notification mechanism set forth in claim 2, wherein each of the plurality of

2.   completion queue handlers generates an interrupt to the processor associated with the process.

1.   4.   The notification mechanism set forth in claim 1, wherein a verb modifies an

2.   association of the at least one completion queue associated with at least one of the plurality of

3.   completion queue handlers.

1

1   5.   The notification mechanism set forth in claim 1, wherein a verb creates the at

2   least one completion queue associated with at least one of the plurality of completion queue

3   handlers.

1   6.   The notification mechanism set forth in claim 1, wherein a verb returns a

2   number of the plurality of completion queue handlers that are associated with the

3   communication device.

1   7.   The notification mechanism set forth in claim 1, wherein each of the plurality

2   of completion queue handlers are associated with at least one completion queue through a

3   completion queue handler identifier.

1   8.   A network, comprising:

2   a plurality of systems;

3   a switch network that connects the plurality of systems for communication; and

4   at least one of the plurality of systems, wherein the at least one of the plurality of

5   systems comprises:

6   a communication device having a plurality of completion queues; and

7   at least two completion handlers associated with the communication device, wherein

8   each completion handler is associated with one of a plurality of processes and

9   associated with at least one of the plurality of completion queues.

1   9.   The network set forth in claim 8, wherein the plurality of completion queues are

2   associated with a plurality of queues.

1   10.   The network set forth in claim 8, wherein a first of at least two completion

2   handlers is associated with one of the plurality of processes and a second of the at least two

3   completion handlers is associated with another of plurality of processes.

1   11.   The network set forth in claim 10, wherein the first of at least two completion

2   handlers communicates a first interrupt to a first processor associated with one of the plurality of

3   processes and the second of the at least two completion handlers communicates a second

4   interrupt to a second processor associated with another of the plurality of processes.

1   12.   The network set forth in claim 10, wherein a verb modifies the association of

2   the first of at least two completion handlers with one of the plurality of processes.

1 13.   The network set forth in claim 8, wherein the at least two completion handlers

2 reside in memory in the communication device.

1 14.   The network set forth in claim 8, wherein the at least two completion handlers

2 reside in memory at least one of the plurality of systems that is external to the communication

3 device.

1 15.   A method for providing notification to a plurality of processes, the method

2 comprising the acts of:

3   creating a plurality of completion queues on a communication device, each of the

4   plurality of completion queues associated with at least one of a plurality of

5   completion queue handlers that are associated with the communication device,

6   wherein each of the plurality of completion queue handlers are associated with

7   one of a plurality of processes;

8   placing a completion queue entry on one of the plurality of completion queues;

9   invoking one of the plurality of completion queue handlers associated with the one of

10   the plurality of completion queues; and

11   notifying the one of a plurality of processes associated with the one of a plurality of

12   completion queue handlers.

1   16.   The method set forth in claim 15, executing a plurality of processes on a

2   plurality of processors.

1   17.   The method set forth in claim 15, comprising issuing a verb to return a number

2   of the plurality of completion queue handlers that are associated with the communication

3   device.

1   18.   The method set forth in claim 15, wherein the notification comprising the one

2   of a plurality of completion queue handlers sending an interrupt to one of a plurality of

3   processors.

1   19.   The method set forth in claim 15, comprising issuing a verb to create one of the

2   plurality of completion queues.

1   20.   The method set forth in claim 15, comprising modifying the at least one of the

2   plurality of completion queues through the issuance of a verb to modify the association of at

3   least one of the plurality of completion queues with at least one of a plurality of completion

4   queues.

1   21.   The method set forth in claim 15, wherein the creation of the plurality of

2   completion queues comprises defining each of the plurality of completion queues in a memory.